

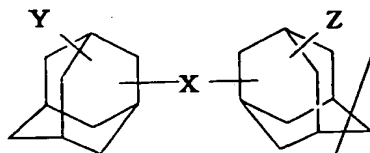
WHAT IS CLAIMED IS:

1. A resist composition comprising:
at least one type of a first compound having two or more
intramolecular adamantyl structures;
a base resin; and
a second compound which generates an acid by active beam
irradiation.

2. The resist composition according to claim 1 comprising at
least one type of said first compound represented by the chemical formula

1:

[Chemical formula 1]



wherein X is $-(OCO)_m-(CH_2)_n-(COO)_m-$, where $m = 0$ or 1 and
 $n = 0, 1, 2$ or 3 provided when $n = 0, m = 0$; and

Y and Z are H, OH, F, Cl, Br, R or COOR, where Y may be Z,
or Y and Z may be introduced in a single adamantyl structure and R
represents a straight or branched alkyl group having 1 to 8 carbon atoms.

3. The resist composition according to claim 1, wherein said
first compound is selected from the group consisting of 3,3'-dibromo-
1,1'-biadamantane, di(1-adamantyl)succinic acid, di(1-adamantyl)malonic
acid, 3,3'-di(carboxymethyl)-1,1'-biadamantane, 3,3'-di(carboxyethyl)-1,1'-
biadamantane, 3,3'-di(carboxy-n-propyl)-1,1'-biadamantane, 3,3'-
di(carboxy-n-butyl)-1,1'-biadamantane, 3,3'-di(carboxy-tert-butyl)-1,1'-
biadamantane, 3,3'-di(carboxy-n-hexyl)-1,1'-biadamantane, 3,3'-

di(carboxy-n-octyl)-1,1-biadamantane and 2-(2-methyladamantyl)-2'-adamantylmethane hydroxide.

4. The resist composition according to claim 1, wherein a content of said first compound is 1 to 50 wt%.

5. The resist composition according to claim 1, wherein said base resin is at least one of the group consisting of poly(acrylic acid) polymers, poly(methacrylic acid) polymers, poly(acrylate-acrylic acid) copolymers and poly(methacrylate-methacrylic acid) copolymers.

6. The resist composition according to claim 5, wherein said base resin contains a functional group which becomes alkali-soluble by the action of the acid generated from said second compound.

7. The resist composition according to claim 5, wherein said base resin contains a functional group which becomes alkali-insoluble by the action of the acid generated from said second compound.

8. The resist composition according to claim 5, wherein said base resin has a weight-average molecular weight of 2,000 to 100,000.

9. The resist composition according to claim 5, wherein a content of said base resin is 50 to 95 wt%.

10. The resist composition according to claim 1, wherein said second compound is at least one of the group consisting of triphenylsulfonium salt derivatives, onium salts, diazodisulfones, diazoketosulfones, iminosulfonates, disulfones, polymer compounds to which a group generating an acid by photoirradiation is introduced in its main or side chain, aliphatic alkylsulfonium salts having a 2-oxocyclohexyl group and N-hydroxysuccinimide sulfonates.

11. The resist composition according to claim 10, wherein the content of said second compound is 0.001 to 30 wt%.

12. The resist composition according to claim 1, further comprising a solvent dissolving said first compound, said second compound and said base resin.

13. The resist composition according to claim 12, wherein said solvent is at least one of the group consisting of ethyleneglycol monomethyl ether, ethyleneglycol monomethyl ether acetate, ethyleneglycol monoethyl ether acetate, ethyleneglycol monoisopropyl ether, diethyleneglycol monomethyl ether, diethyleneglycol dimethyl ether, cyclohexanone, cyclopentanone, 2-heptanone, propyleneglycol monomethyl ether, propyleneglycol monomethyl ether acetate, propyleneglycol monomethyl ether propionate, propyleneglycol monoethyl ether acetate, methyl 3-methoxypropionate, ethyl 3-ethoxypropionate, methyl β -methoxyisobutyrate, ethyl butyrate, propyl butyrate, methyl isobutyl ketone, ethyl acetate, 2-ethoxyethyl acetate, isoamyl acetate, methyl lactate, ethyl lactate, toluene, xylene, cyclohexyl acetate, diacetone alcohol, N-methylpyrrolidone, N,N-dimethylformamide, γ -butyrolactone and N,N-dimethylacetamide.

14. ~~The resist composition according to claim 1, further comprising a nonion surfactant.~~

15. The resist composition according to claim 14, wherein said nonion surfactant is selected from the group consisting of polyoxyethylene lauryl ether, polyoxyethylene stearyl ether, polyoxyethylene octylphenyl ether, polyoxyethylene nonylphenyl ether, polyethyleneglycol dilaurate, polyethyleneglycol distearate, polyoxyethylenesorbitan monostearate and sorbitan monolaurate.

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16. The resist composition according to claim 1, further comprising an amine.

17. The resist composition according to claim 16, wherein said amine is selected from the group consisting of nonylamine, decylamine, tridecylamine, tetradecylamine, pentadecylamine, diamylamine, tributylamine, triamylamine, di(4-methylbenzyl)amine, diphenylamine, tribenzylamine and hexamethylenetetramine.

18. The resist composition according to claim 16, wherein said amine has a boiling point of 200 to 350°C at 101.3 KPa.

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✓19. A method for manufacturing a semiconductor device comprising:
an application step of forming a resist film by means of applying the resist composition according to claim 1 onto a substrate;
a pre-exposure heating step of heating the resist film formed in said application step;
an exposure step of exposing the resist film by means of irradiating the resist film with an active beam via a given mask after said pre-exposure heating step, the active beam having a wavelength of 150 to 250 nm;
a post-exposure heating step of heating the resist film after said exposure step;
a development step of forming a resist pattern by means of developing the resist; and
an etching step of conducting dry etching with the resist pattern as a mask.

20. The method for manufacturing a semiconductor device according to claim 19, wherein in said exposure step, the resist film is exposed with ArF excimer laser beam as the active beam.

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